

IN THE CLAIMS:

Please amend the claims as follows:

Claim 1 (Original): A polynucleotide that encodes a polypeptide that reduces the amount of glucose side chain of a polysaccharide antigen specific to *Streptococcus mutans*,

wherein the polynucleotide comprises:

a base sequence of any of SEQ ID NO: 1 through 4; or

a base sequence with the deletion, substitution, or addition of one or more bases in the base sequence of any of SEQ ID NO: 1 through 4.

Claim 2 (Original): A polynucleotide that encodes a polypeptide that reduces the amount of glucose side chain of a polysaccharide antigen specific to *Streptococcus mutans*,

wherein the polynucleotide comprises:

a polynucleotide of a base sequence of any of SEQ ID NO: 1 through 4; or

a polynucleotide that hybridizes under stringent conditions with a polynucleotide having a complementary base sequence to the polynucleotide of the base sequence of any of SEQ ID NO: 1 through 4.

Claim 3 (Original): An oligonucleotide that comprises a base sequence, or a complementary sequence thereof, with at least 12 contiguous bases of a base sequence of any of SEQ ID NO: 1 through 4.

Claim 4 (Original): An oligonucleotide of claim 3, which comprises a base sequence of any of SEQ ID NO: 8 through 10.

Claim 5 (Currently Amended): A polypeptide that is encoded by a polynucleotide of claim 1 [[or 2]].

Claim 6 (Original): A *Streptococcus mutans* strain with a reduced amount of glucose side chain in a polysaccharide antigen specific to *Streptococcus mutans*.

Claim 7 (Currently Amended): A *Streptococcus mutans* strain of claim 6, which comprises a polynucleotide ~~of claim 1 or 2 comprising a base sequence of any of SEQ ID NO: 1 through 4; or a base sequence with the deletion, substitution, or addition of one or more bases in the base sequence of any of SEQ ID NO: 1 through 4.~~

Claim 8 (Currently Amended): A *Streptococcus mutans* strain of claim 6, which expresses a polypeptide ~~of claim 5 encoded by a polynucleotide of a base sequence of any of SEQ ID NO: 1 through 4; or a polynucleotide that hybridizes under stringent conditions with a polynucleotide having a complementary base sequence to the polynucleotide of the base sequence of any of SEQ ID NO: 1 through 4.~~

Claim 9 (Currently Amended): An antibody that specifically binds to a *Streptococcus mutans* strain of ~~any of claims 6 through 8~~ claim 6.

Claim 10 (Currently Amended): A method for detecting a *Streptococcus mutans* strain in a subject sample, comprising the steps of:

separating bacteria from the subject sample;
extracting genomic DNA or total RNA of the bacteria separated from the subject sample; and
carrying out a PCR reaction, using the genomic DNA or total RNA as a template, and using an oligonucleotide of claim 3 [[or 4]] as a primer.

Claim 11 (Original): A method for detecting a *Streptococcus mutans* strain in a subject sample set forth in claim 10, wherein the tissue sample is obtained from blood, saliva, or plaque.

Claim 12 (Currently Amended): A method for detecting a *Streptococcus mutans* strain in a subject sample set forth in claim 10 [[or 11]], wherein the primers are an oligonucleotide of a base sequence of SEQ ID NO: 8, and an oligonucleotide of a base sequence of SEQ ID NO: 9 or 10.

Claim 13 (Currently Amended): A method for detecting a *Streptococcus mutans* strain in a subject sample, comprising the steps of:

separating bacteria from the subject sample;

extracting genomic DNA or total RNA of the bacteria separated from the subject sample; and

carrying out a hybridization reaction for the genomic DNA or total RNA, using an oligonucleotide of claim 3 [[or 4]] as a probe.

Claim 14 (Original): A method for detecting a *Streptococcus mutans* strain in a subject sample set forth in claim 13, wherein the tissue sample is obtained from blood, saliva, or plaque.

Claim 15 (Currently Amended): A method for detecting a *Streptococcus mutans* strain in a subject sample set forth in claim 13 [[or 14]], wherein the oligonucleotide has a base sequence of any of SEQ ID NO: 8 through 10.

Claim 16 (Currently Amended): A method for detecting a *Streptococcus mutans* strain in a subject sample set forth in ~~any of claims 10 through 15 claim 10~~, wherein the step of separating bacteria uses an antibody ~~of claim 9 that specifically binds to a Streptococcus mutans strain with a reduced amount of glucose side chain in a polysaccharide antigen specific to Streptococcus mutans.~~

Claim 17 (Original): A method for detecting a *Streptococcus mutans* strain in a subject sample, comprising the steps of:

separating bacteria from the subject sample;

incubating the separated bacteria with an antibody of claim 9; and

detecting bacteria that have bound to the antibody.

Claim 18 (Currently Amended): A method for determining a serotype of a *Streptococcus mutans* strain in a subject sample, the method comprising using a method of ~~any of claims 10 through 17~~ claim 10.

Claim 19 (Currently Amended): A screening method of a *Streptococcus mutans* strain, the method comprising using a method of ~~any one claims 10 through 17~~ claim 10.

Claim 20 (Original): A *Streptococcus mutans* strain, which is obtained by a screening method of claim 19.

Claim 21 (Currently Amended): A kit for detecting a *Streptococcus mutans* strain, the kit comprising an oligonucleotide of claim 3 [[or 4]].

Claim 22 (Original): A kit for detecting a *Streptococcus mutans* strain set forth in claim 21, wherein the oligonucleotide comprises a base sequence of SEQ ID NO: 9.

Claim 23 (Original): A kit for detecting a *Streptococcus mutans* strain set forth in claim 22, the kit further comprising an oligonucleotide of a base sequence of SEQ ID NO: 8.

Claim 24 (Original): A kit for detecting a *Streptococcus mutans* strain set forth in claim 23, the kit further comprising an oligonucleotide of a base sequence of SEQ ID NO: 10.

Claim 25 (Currently Amended): A kit for detecting a *Streptococcus mutans* strain set forth in ~~any of claims 21 through 24~~ claim 21, which is used for a PCR reaction or a hybridization reaction.

Claim 26 (Original): A kit for detecting a *Streptococcus mutans* strain, the kit comprising an antibody of claim 9.

Claim 27 (Currently Amended): A method for producing an antibody of claim 9, comprising the step of injecting a *Streptococcus mutans* strain of ~~any of claims 6 through 8 with a reduced amount of glucose side chain in a polysaccharide antigen specific to~~ *Streptococcus mutans*, wherein said *Streptococcus mutans* strain is suspended in a buffer, intravenously into the auricular vein of rabbits repeatedly for 5 consecutive days.

Claim 28 (Original): A method for producing an antibody set forth in claim 27, further comprising the step of repeating immunization of the *Streptococcus mutans* strain, suspended in a phosphate-buffered saline, one week after the injecting step and for another 2 weeks, 5 times each week.

Claim 29 (Original): A bacteria detecting tool, which comprises an oligonucleotide, fixed on a substrate, that include a base sequence with at least 12 contiguous bases of a base sequence of any of SEQ ID NO: 1 through 4.

Claim 30 (Currently Amended): A bacteria detecting tool of claim 29, wherein the oligonucleotide comprises ~~an oligonucleotide of claim 3 or 4~~
a base sequence, or a complementary sequence thereof, with at least 12
contiguous bases of a base sequence of any of SEQ ID NO: 1 through 4.